STORM DATA



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NATIONAL CLIMATIC DATA CENTER

Over the next few months, the National Climatic Data Center will seek competitive proposals for a one-year contract (effective 10-1-85, optional renewal for three to five years) to provide the pictures, summaries, narratives and analyses used in this publication. The contract will be awarded by the Eastern Administrative Support Center, Norfolk, Virginia. Notice of solicitation will appear in the Commerce Business Daily.

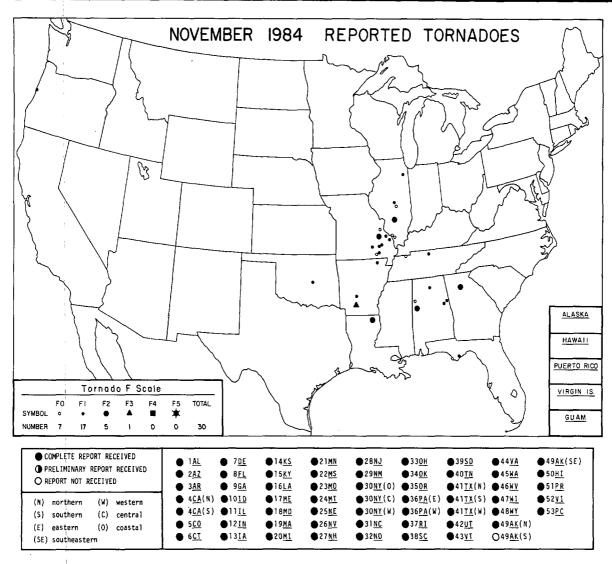
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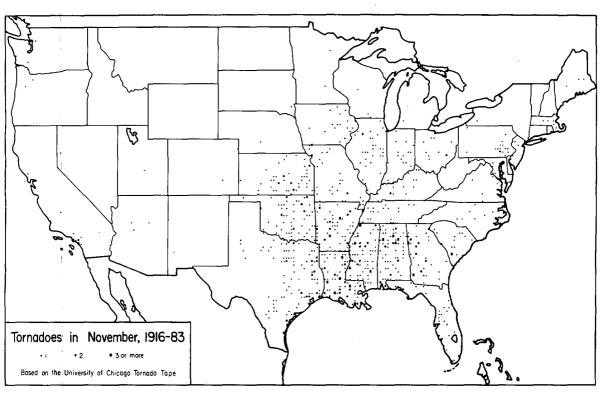
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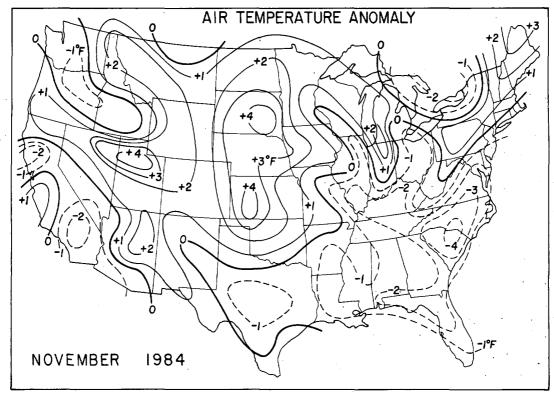
NOTE: The section on Outstanding Storms of the Month is prepared by Professor T. Theodore Fujita, editor, and Duane J. Stiegler, associate editor, University of Chicago. The narrative descriptions of Storms by State and Summaries of Hurricanes and Tropical Storms are prepared by the National Weather Service. The National Climatic Data Center compiles the statistics on deaths, injuries, and damage. This publication contains our best information on Storms, but, due to the difficulties inherent in collection of this type of data, it is not all-inclusive. Late reports and corrections will be carried quarterly.

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OUTSTANDING STORMS OF THE MONTH

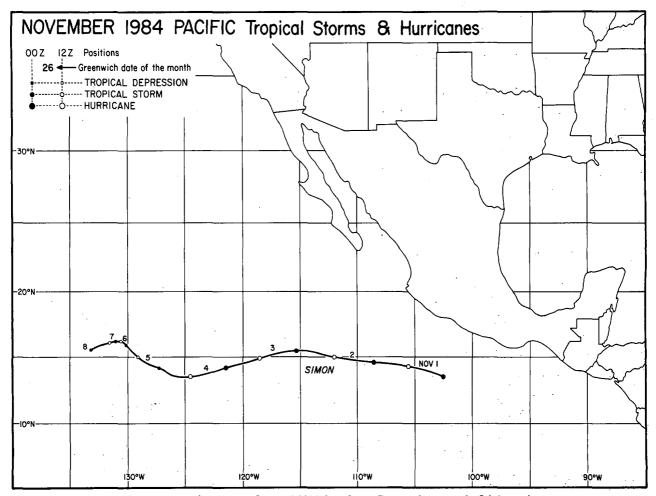




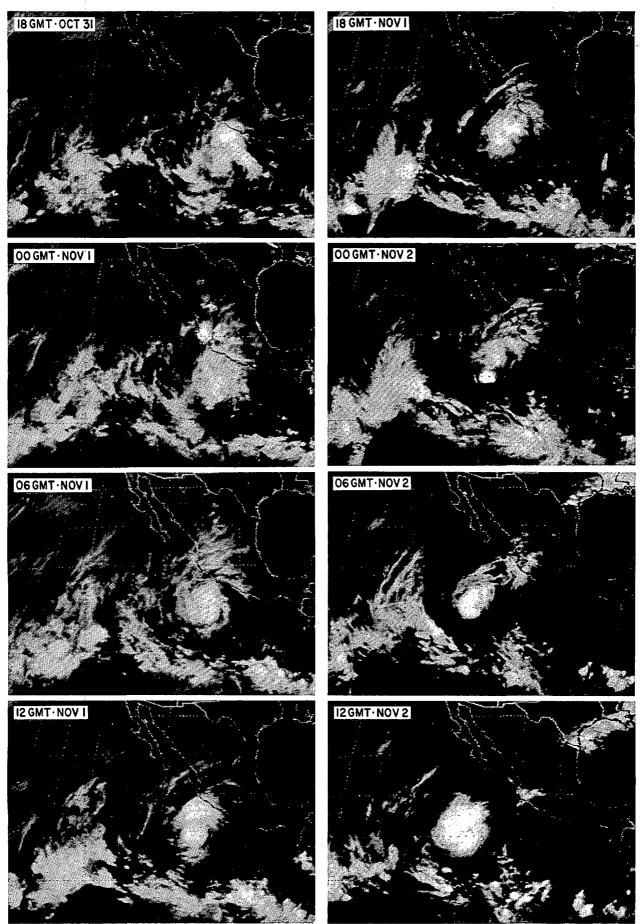


---Data base from NOAA/USDA Joint Agricultural Weather Facility.

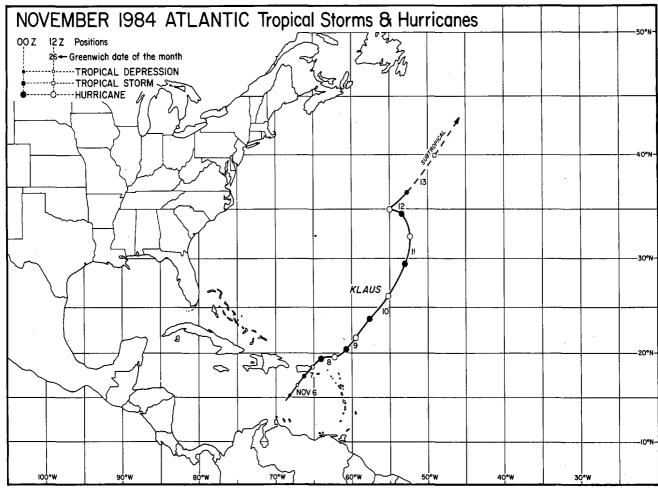
TROPICAL STORMS AND HURRICANES



---Best track data from NWSFO, San Francisco, California.

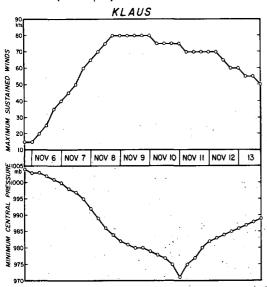


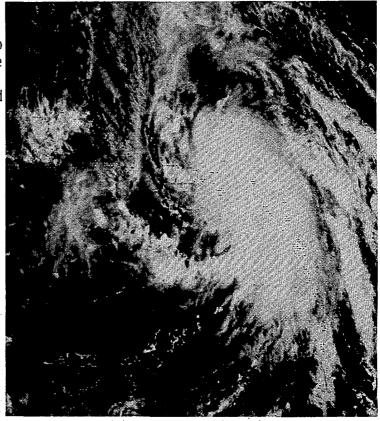
GOES East satellite, visible images of Tropical Storm SIMON at 6 hour intervals during its formation and development off the coast of Mexico. ---Photos from NESDIS.



---Best track data from the National Hurricane Center, Miami, Florida.

RIGHT: A GOES East satellite, visible image of KLAUS in tropical storm stage as it passed over Puerto Rico and the Virgin Islands. At the time of the photo, 1400 GMT on November 7, 1984, the maximum sustained winds were estimated to be about 55 kts (63 mph). ---Photo from NHC.

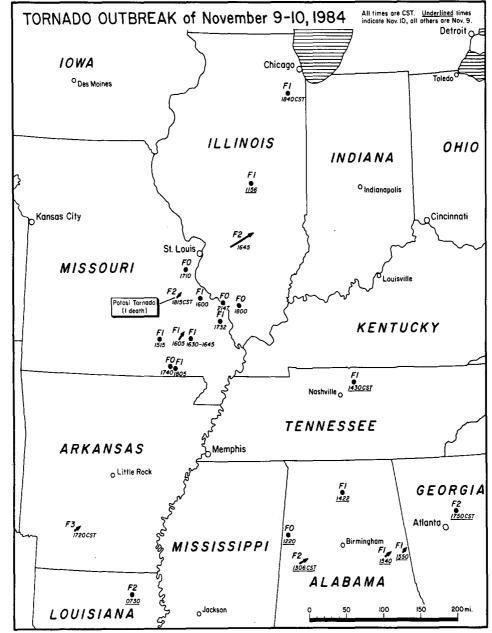




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1. TORNADO OUTBREAK in the EAST-CENTRAL U.S. on November 9-10, 1984

On November 9th and 10th, 23 tornadoes struck the east-central United States in a single outbreak that accounted for 77% of the total tornadoes reported nationwide during November. The breakdown by intensity is: 5-F0, 12-F1, 5-F2, and 1-F3. Only one tornado was a killer, causing one death as it struck Potosi, Missouri (see photos). ---Mapping by the University of Chicago from Storm Data listings.





Destroyed and damaged mobile homes at a sales park where the tornado in Potosi, Missouri started.





Skeletal remains of a flipped over mobile home (left) and debris strewn from the mobile home sales park (right) in Potosi.





The Potosi Elementary School which sustained loss due to damage estimated at \$1,300,000.

---Photos by Guy Tucker, St. Louis Area NWSFO, St. Charles, MO.

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			NOVEMBER 198
PLACE	TIME - LOCAL STANDARD - LOCAL BENCH OF PATH (TARDARD) WINDIRED CROPS RILED ROPERTY CROPS ROPERTY CRO	PLACE	PATE TIME - LOCAL STANDARD LENGTH OF PATH (MILES) WIDTH OF PATH (MILES) WIDTH OF PATH (MILES) WOOFER IT WOOFER IT CROPS CROPS ROPER IT WOOFER IT CROPS STANDARD CROPS CROPS
1 ALABAMA		ALABAM	A
Lamar County	10 1220CST 1.5 50 0 0 3 0 Tornado (FO) A small tornado touched down just south of Hightogy and moved ENE. Witnesses saw a fumnel, but damage was described as very light. Some power lines were downed and trees were damaged. A large oak tree was splintered by lighting in nearby Vernon.		10 1555- 0 0 ? ? Wind 1620CST Power outages were reported in parts of the Roanoke, Wadley and Newell areas due to thunderstorm winds slowing trees and tree limbs down across power lines.
Southern Winston County	10 1300- 0 0 2 0 Wind 1315CST A few trees were downed in scattered areas as a band of intense thunderstorms moved eastward.		10 1555CST 0 0 3 0 Wind Thumberstorm winds downed several large trees with some streets blocked. 10 1605CST 0 0 4 0 Wind
Pickens and Tuscaloosa Counties	10 1306CST 14 400 0 0 5 0 Tornado (F2) A tornado followed am intermittent path ENE from near the Pickens/Tuscaloosa County line SW of Elrod to near the Northport area, where it was last reported around 1330CST. The storm was apparently most intense as it crossed Tuscaloosa County Road 17 south of Buhl and in the Coker area near U.S. 92. Some 50 homes and	Opelika, Lee County	Thunderstorm winds toppied trees onto some cars near Lake Martin. 10 1634CST 0 0 3 0 Wind Thunderstorm winds toppied a tree onto a parked car.
	farm structures were damaged. A mobile home was destroyed south of Buhl and a church was heavily damaged. Numerous trees were uproceed or snapped off and utility lines were downed.	2 ARIZONA —	NONE REPORTED
SW Fayette County	10 1315CST Funnel Cloud County sheriff's office reported a funnel cloud southwest of the City of Fayette.	3 ARKANSAS	101 0015 000
Akron area, Hale County	10 1340CST 0 0 2 0 Wind Thunderstorn winds downed a few trees.		01 0225 CST 0 0 Hail Three-quarter inch diameter hail was reported at Ida by the Heber Springs Police Department.
Evergreen area, SW Morgan County	10 1420CST 0 0 4 0 Wind Thunderstorm winds destroyed one barn and damaged smother, uprooted trees, and damaged the roof of a home.		01 1030 CST 0 0 4 - Wind Thunderatorm guats destroyed a mobile home in Cave Springs. It also knocked down trees, power Lines, and damaged outbuildings. Trees were blown down east of Centry, also.
10 E Hartselle, Morgan County	in 1422CST 1.5 40 0 0 4 0 Tornado (FI) Hembers of one family watched from a ditch as a tornado funci skipped by their house and approached the home of a neighbor. Fortunately, the main part of the storm missed the house as it downed trees and destroyed		01 1030 CST 0 1 3 - Wind High wind resulting from a thunderstorm blew a small car off the road two miles east of Springdale.
Selma, ·	some sheds. Only a few shingles were blown off the home. The tornado apparently continued along am intermuttent path toward the NE before lifting near the intersection of Alabama 36 and Six Mile Road. 10 1450CST Funnel cloud		01 1224 CST 2.5 50 0 1 5 - Tornado (F1)/Wind A small tornado touched down 100 yards south of the Highway 8 overpass on Interstate 30 and moved almost due east. One minor injury was reported at an aluminum boat company. Damage was done also to car dealerships and one home in the area. Most of the damage was done at the boat factory where many small boats were thrown around and where the roof was
Dallas County Prattville area,	A funnel cloud was reported on the west side of Selma by the Dallas County Emergency Management Agency. 10 1520CST 0 0 3 0 Wind	,	damaged significantly. At approximately the same time, straight line winds knocked down a coment block wall in downtown Arkadelphi.
Autauga County Clay County	Thunderstorm winds downed trees and power lines. 10 1540CST 9.5 100 0 0 4 0 Tornado (F1) A small tornado moved rapidly NE along an intermittent path from near Harkins Cross Roads to just NE of		01 1345 CST 0 0 Funnel Cloud The Little Rock Air Force Base tower reported s funnel cloud 6 miles southeast of their location. 01 about 0 0 3 - Wind
	Lineville. Witnesses reported spotting the tormado funnel at Lineville. Damage included trees and power lines down, one small plane at the Ashland-Lineville Airport destroyed and another heavily damaged, roof		1400 CST A church at Evening Star had a portion of its roof torn apart by wind gusts from a thunderstorm.
	damage to some buildings and plate glass windows blown out. The storm also momentarily picked up a police car in Lineville with the Chief of Police in the wehicle. No injuries were reported. One group of people, that had been standing outside near a small shopping center		01 1405 CST 0 0 4 - Mind Thunderstorm gusts blew a trailer onto a home and damaged the underskirt of a second mobile home at Tull. Some trees and power lines were downed.
	in Lineville, apparently narrowly escaped injury by taking shelter after being warned by a passing police officer about two minutes before the plate glass windows blew out. 10 1545CST 0 0 3 0 Wind	Randolph County	01 1406 CST 5 100 0 0 4 - Tornado (F1) A small tornado touched down 4% miles south of Pocahontas and moved northeast. It destroyed a trailer and one mobile home. A drive-in movie sustained damage to the concession stand roof, the fencing, and the screen.
Mellow Valley, Clay County	Thunderstorm winds destroyed two chicken houses and a feed tank.	Saline County	01 1408 CST 0 0 - Funnel Cloud A funnel cloud was spotted 6 miles northwest of Benton.
Randolph County	10 1550CST 5 50 0 0 5 0 Tornado (FI) Altornado apparently followed an intermittent path from near Woodland to near Bethel. Most of the damage in Woodland was to the unoccupied Woodland High School. Damage to the school included windows to some class rooms blumn out, about 1/2 the roof to the gym destroyed	Pulask1 County	01 1410 CST 0 0 5 - Wind Thunderstorm gusts blev down many trees and unroofed a large portion of a commercial building in southwest Little Rock on Patterson Road.
	and roof flashing ripped out all around the building. Twin 1-beam girders that supported the scoreboard at the football field were twisted as the Scoreboard was blown to the ground. Damage in the Bethel area included two large chicken houses destroyed, a third heavily damaged, and some 3,500 chickens lost to the storm. Trees and power lines were also downed in some spots. Power poles were broken in the Bethel and Woodland area. Some debris from the destroyed chicken		01 about 0 0 4 - Wind 1430 CST Very strong thunderstorm gusts blew down trees and power lines across all of Corning. One hangar, containing a small airplane, was demolished. A camper trailer also was damaged. At Piggott, a commercial building had four sections of a wall torn down at about the same time.
-	wood.mad area. Some deeris from the destroyed chicken houses in Bethel was reported to have been found on Blackjack Mountain across the Georgia line some six miles away.	White County	01 1430 CST 0 0 Funnel Cloud The Searcy Police Department reported a funnel cloud had been spotted over Griffithville.
Elmore County	10 1550CST 0 0 3 0 Wind Thunderstorm winds downed power lines on U.S. 231 South of Wetumpke.	Mississippi County	01 about 0 0 3 - Wind 1500 CST Winds from a thunderstorm damaged a porch and a fence at a Blytheville residence.
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NOVEMBER 1984

	NO. OF ESTIMATED! PERSONS DAMAGE		NO. OF ESTIMATED DAMAGE
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ARKAN	SAS		SAS
Madison County	01 2245 - 0 0 5 - Wind 2305 CST Damaging winds from thunderstorms moved through the country. The areas affected were Wesley and, later on,	Union County	26 about 0 0 ? - Heavy rain 2140 CST Heavy rain produced urban flooding in many areas of El Dorado and some of the county roads.
	Clifty. Trees and power lines were downed. Three chicken houses, one large tool shed, and other farm buildings were destroyed.	Ouachita County	26 2145 CST 0 0 ? - Heavy Rain About a 3%-inch rainfall flooded some county roads and produced minor urban flooding at Camden.
Newton County	09 1458 CST 0 0 ? ? Hail/Wind Hail was reported 5 miles south of Jasper ranging in size from 1 inch to 1½ inches. Some trees were uprooted by winds estimated between 60 and 70 mph.	Independence County	26 about 0 0 3 ? Heavy Rain 2200 CST Heavy rain fell across the county flooding many roads, especially in the northern half. Some vehicles were flooded.
Marion County	09 1540 CST 0 0 - Hail A State Trooper reported one inch diameter hail 5 miles south of Yellville.	Faulkner County	26 2210 CST 0 0 ? - Heavy Rain Heavy rains flooded some county roads, requiring the use of barricades to block off the flooded
Fulton County	09 1625 CST 0 0 ~ - Hail Golfball and larger hail fell from Salem to near Glencoe.	Randolph County	sections. 26 about 0 0 4 - Flash Flooding 2350 CST
Saline County	09 1637 CST 0 0 - Hail Golfball-size hail was reported at Alum Fork and Lake Wimona.		Reavy rains produced flash flooding along the river banks of the Eleven Point River at Dalton. One travel trailer, a 20-foot boat with an outboard motor, and a motorcycle were all swept away by the current.
Pulaski County	09 about 0 0 - Hail 1700 CST Golfball-sized hail was reported by the Sheriff's Office at Roland.	Izard County	26 Evening 0 0 5 - Flash Flooding A 5-inch general rainfall across the county washed off at least 3 low water bridges and damaged
Nevada and Ouachita Counties	09 1720 CST 6 ½mi. 0 0 4 6 Tornado (F3) A strong tornado touched down one mile northwest of Bluff City and traveled northeast, just missing the community of Reader, and lifting off just before reaching the Little Missouri River. It damaged one mobile home, one farm building, and one abandoned house. Most of the damage was done to timber. The tornado levelled 500 acres of pine and 650 acres of hardwood.	Sharp County .	many county roads. 26 Evening 0 0 5 - Flooding The Spring River rose out of its banks at Hardy, causing extensive road damage. The strong current took down a temporary construction bridge that was being used to build a replacement bridge for the one that was taken down during the December of 1982 flood. One large crane and other construction equipment was lost.
Woodruff County	09 1918 and 0 0 - Funnel Clouds 1922 CST Two separate funnel clouds were reported to the State Folice by the public. Both sightings were near McCrory.	Craighead County	27 about 0 0 4 - Heavy Rain O300 CST Heavy rains flooded a dozen homes in Bono with water up to 3 inches deep.
Pulaski County	2010 - 09 2052 CST 0 0 ? - Hail Hail, ranging in size from 3/4 inch to 1 3/4 inches, was reported across the county. The areas affected were Morgan, Little Rock, and North Little Rock.	4 CALIFORNIA	, Northern
Mississippi County	09 2150 CST 0 0 4 - Lightning Lightning struck a rural residence near Whitten, starting a fire. The home was completely destroyed.	Northwest California Coast	1200 PST Winds and heavy rain associated with a Pacific cold front blew down power lines and uprooted trees. Several boats were disabled
Prairie County	09 2155 CST 0 0 Funnel Cloud A funnel cloud was reported over Hazen.		45 miles west of Fort Bragg. Storm total rain at Wilder Ridge was 13 inches.
Garland County	09 2208 - 0 0 4 - Hail/Wind 2235 CST Strong wind gusts damaged part of the roof, lawn furniture, and the large street sign of a motel in Hot Springs. Winds were estimated at 65 mph. Also large hail, up to 1 3/4 inches, fell 5 miles west of Hot Springs. Many trees and power	Sierra Nevada, Moun Shasta/Siskiyous	13 Moderate to heavy snow was reported throughout the regions. Totals were in excess of one foot at most ski areas; and blowing and drifting anow closed three major highways (15,180 & US50) at one
Mississippi County	lines were downed across the county. 10 0015 CST 0 0 4 - Lightning		time or another during the storm.
HISSISSIPPI Councy	A rural home was totally destroyed by fire that resulted from a lightning strike. The home was located one mile north of the county line along Highway 61.	Sacramento Valley	27 Morning 0 0 ? ? Wind Strong pre-frontal winds with gusts over 50 miles per hour occurred over most of the walley. Power lines and trees were blown down in the vicinity of Sacramento.
Garland County	26 1605 CST 0 0 ? - Heavy rain The State Police reported street flooding in Hot Springs from heavy rain.	Northwest California Coast	·
Hempstead County	26 1855 CST 0 0 4 - Wind A thunderstorm moved through Hope producing strong winds which blew down numerous trees and power lines across the south half of the city.		heavy seas. A 482 foot freighter had a 4 inch hole and was taking on water. On shore, trees and power lines were blown down. 35 seperate breaks in power and other utility lines occurred in Mendocino County, affecting 8000 customers.
Cleburne County	26 about 0 0 ? - Heavy rain 1930 CST Urban flooding occurred in Heber Springs after almost 34 inches of rain fell across the area.	4 CALIFORNIA	A, Southern — NOME REPORTED
St. Francis County	26 2055 CST 0 0 - Punnel Cloud A civil defense official reported seeing a funnel cloud just southeast of Goodwin, in the southwest section of the county.		
Pulaski County	26 2100 - 0 0 4 - Flash Flooding 2100 CST Urban Flooding was reported across many sections of the county, along the flood-prone areas. The main areas affected by the 3.7 inches of rainfall were along the Bayou Meto in Jacksonville; along Rock, Fourche, and Grassy Flats Creeks in western and southwestern Little Rock; and at several street intersections in North Little Rock.		
	Three mobile homes were lost due to high water in Gravel Ridge.	L	

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PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF (MILES)	WIDTH OF PATH (YARDS)	KILLED	INJURED	PROPERTY	CROPS	CHARACTER OF STORM		PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF	WIDTH OF PATH (YARDS)	KILLED	INJURED	PROPERTY	CROPS	CHARACTER OF STORM
5 COLORADO										11	GEORGI	A								
Eastern Foothills	Wind o	rimer C	stimate				h ble	w at Re	High winds d Feather Lakes ached 60 mph at		CarroII County		1800EST	ruck a	house i	0 In New	o man, c	3 ausing	0 consid	Lightning
Northeast	Strong	fternoo g winds record	blew o	in Lo	ogan (County	, whe	ern Col	High winds orado. The peak no recorded 72 mph		Cobb and Fulton Counties	Thu								Wind In scattered are also damaged.
El Paso County	Winds was b	lown of	to 82 r f its fo by the	ounda t	ion,	st of	Colo	rado Sp	High winds rings. A trailer everal trees were		DeKalb County	gus		obins A	FB were	measu O	red t	:o 58 m	ph wit	h a few higher
Northern Mountains	13-14 A stor		ed 22 i:		0 of sr		the	Lovelan	Heavy snow d and Berthoud			Vil had dan	liage Apa their re age. Many theast fo	rtment ofs to trees or abou	s in nor rn off a were do t a mile	rthern and se own in a to r	Atla veral the ear	nta. Tother area a	wo apa s suff nd als ee Hig	e Dunwoody Park rtment buildings ered moderate o to the east- n School, One
Southwest							ass.	At low	Heavy snow mer elevations, at Cortez.		DeKalb County		son in th	ne apar	tment co	omplex 0	0	1njure 0		Funnel Cloud
Eastern Colorado	of 6 1	to 8 in	ches fe'	11 in	the 1	rinid	lorad ad an	o. The d Walse	Snow, wind heaviest amounts nburg areas, but				unnel cla 85 in no					inters	ection	of I-85 and
	Blowin leavin Snowfa 10 ind with a	ng snow ng over all tota ches in a whopp	closed a thous als were	inter sand t e most untain	state ravel ly 2	: 70 a ers s to 4	nd se trand inche	veral o ed in L s on th	rther north. ther roads, imon. e plains and 5 to gs was buried		Gwinnett County	A tor	nado fir: se was de a hit wa:	t hit estroye the C	down abo the Fore d and or hattahoo	est Kr thers ochee	oll E damag Mobil	states ed by e Home	Subdi fallin Park	Tornado (F2) of Duluth. The vision where one g trees. The next where ten mobile
Northeastern Foothil	Winds footh severa woman	gusted ills. al tree was in	In Bould s were f	der, a felled hen sh	60 t roof , dam	blew aging	mph a off some	long th of a se cars.	High winds e Front Range rvice station; An elderly a gust and blown			hos eas Mar	ple were pitaliza: t-northe:	injure ion. T ist to houses	d in the he torns the Hill	e mobi ado re Ltop M	le ho maine isnor	ome par ed on t Subdiv	k but he gro ision	te damage. Eight only two required and as it moved where it lifted. ged by falling
	ì									$\ $	Gwinnett County	1	1900EST			0	0	3	0	Wind
6 CONNECTIO	ψT —			- NONE	REPO	RTED					Hall, Borrow, Clarke Newton, Walton,			i wings	prew a	0	0	a nous	0	Wind
7 DELAWARE	+			NONE	REPO	RTED					Morgan, Jackson, and Oconee Counties	the	nderstorn se counti es blocke	es. Po	wer line	dama	ge wa	s exte	asive a	large, across and in some cases mage.
8 FLORIDA											Rockdale and Henry Counties	10	1930 - 1945EST			0	0	4	0	Wind
Eastpoint,	; 03 2	100EST	1	30	0	0	3	_	Tornado(F1)			Cou	nderstore nties.	winds	downed	trees	and	power	lines	across both
Franklin Co.	A block signs w	wall o	facom o blown	mercia down.	el bui	lding	Was	blown d	lown. Two		Franklin, Madison, Olgethorpe, Greene, and Banks Counties		1930 2000EST			0	0	5		Wind
St. Johns, Flagler, Volusia, Brevard, Indian River, St.	22- 24				1	UNK			Wind, rain			to	h winds i buildings a camper	. In M	adison c	ounty	, a f	trees erm sho	and co p buil	used some damage ding was unroofed
Lucie, Martin, Palm Beach Counties	A low printensis	fied to nigh pr	unusua. essure 1	lly 10 to .the	w pre	ssure hvest	. Thi	s coupl uced a	nd ed		Hart and Elbert Counties	10	2000- 2015EST			0	0	4	0	Wind
	strong p wind ald Heavy re over the	ong the	east co	oast. seven	The 1	ov sl	owly : ompan	moved n	storm			Sev	eral tree	s were	blown d	lown o	nto p	ower 1:	nes ar	d roads across
	coastal structu seawalls	floodi res dam were	ng and l aged or damaged	beach destr or de	erosi oyed. stroy	on wi Fish	th nu ing p amage	merous iers an was co	đ nfined		Mitchell County	Thu							nt she	Wind lter and caused
	to the s caused I on a dow	local f.	looding.	. A ma	e nea un was	wy ra:	in in ed wh	the so en he s	utn tepped			roo	fdamage	and a :	scorebos a schoo	ırd wa	s blo	wn down	. A fe	ool suffered some w cars were y next to the
9 GEORGIA	ı										10 IDAHO				- NONE	REPO	RTED			
Carroll and Coweta Counties	10 171 175	5 - Oest			0	0	4	0	Wind											
		ew hous	es acro	ss bot					lines, cars, the houses											
Carroll County	10 171		inch he	41 £61	0 11 br	0 lefly	2 to Te	0 mmle.	Hail											
Carroll County	10 173	5¢st			0	0	0	0	Funnel Cloud											
	A funne	1 cloud	was si	ghted	over	Mount	Zion	۱.												

		AT.	Ē	7		0. OF						AL	PATH	T		. OF	ESTIM	ATED!	
PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PAT	WIDTH OF PATH (YARDS)	KILLED	T,		CROPS	CHARACTER OF STORM	PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PA	WIDTH OF PATH (YARDS)	KILLED	INJURED	PROPERTY	CROPS	CHARACTER OF STORM
11 ILLINOIS			1					L	J	12 INDIANA	J	·	I.	J	1	1	<u> </u>	1	
Macon-Mt. Zion,	1	0621CST	∿7	?	0	(0 5	0	Tornado (F∅)	N. Yedman,	01	0834ES1	-		0	0	2	0	Thunderstorm Winds
Macon county	At (21am CST						e nort	h side of Macon	Carroll County	A 1	arge tree	was b	lown on	to a h	house	by st	rong s	torm winds.
	dama	ged, with	a co	uple of	outbu	11d i	ings comp	letely	nine sheds were destroyed. heavy rain and a	Stockwell, Tippecanoe County	01	0914ES1	Ť		0	0	2	0	Thunderstorm Winds
		l roaring					iced char	very	neavy rain and a	Trippedance councy	Str	ong thunc	lerston	m winds	uproc	oted	a few	trees.	
Central Sections	9	afternoor & evening			0	(3	0	Hail	2 S Peru, Miami County		0940EST		m winde	0	0 ntod	3 como t		Thunderstorm Winds nd caused some
	cent	ral Illin	nois,	in an a	rea r	ough	hly bound	by St	large section of . Louis, Champaign,			age to sh							
	tori	ado (see	belo	w) accom	panie	d ti	ne storms	. Heav	ng hours. One ny rain and pea- ny was noted at	Ossian, Wells County		1115ES1			0	0	5	0	Thunderstorm Winds
·	the	following	g loc	ations:	at 24	Opm,	1 3/4"	hail f	ell at Washington e hail was re-		res	idence 3	miles :	east of	Ossia	an on	900 n	orth.	in damage to a In addition, rn was moved on its
	note	d at High	hland	(Madiso	n cou	nty)	; at 432	pm, 1 ¹ 5	m, 3/4" hail was hail fell at the			indation.	Dy U (C	C3 WC/C	uomas	geu u) I U	in was moved on tes
	ins	outhwest	Cumb	erland c	ounty	nea	r Sigel;	at 70	ail was reported Spm, 1" hail fell was noted at	Clinton, Vermillion County		2100ES1			0	0	0	0	Hail
	Char	leston (C	Coles				,,,,,,,,		. Was noted do	Shepherdsville,	3/4	inch dia 2105ES1		hail wa	s repo	orted O	. 0	0	Hail
or Dudleyville to Brownstown, Bond	l	1645CST rnado tou		150 down in	0 Bond		ll 6 Inty near		Tornado (F2) yville at about	Vigo County		•		hail wa	-				wn of Shepherds-
and Fayette counties	nort	h of Hook	kdale	, then c	rosse	d ir	nto Fayet	te cou	, passing just inty just east of		vi1	le.							
	3 m t								,passing about Frownstown before										
			5 hom	es were	damag	ed t	y the to	rnado,	with dollar esti-	13 IOWA									•
	Brow	mstown wh	nere	169 home	s wer	e da	maged,	25 of	ge occurred in which were des-	Marion County	09	0730 CS1			0	0	4	3	Thunderstorm with
	Elev		e wer	e injure					were damaged. ly one was admit-										Hail ies of Columbia, nis balls around
	At 1	east thr	ee s	ight ings					curred with this		Colu	mbia, and	l broke	reside	ntial	wind	ows, d	amaged	steel roofs and ight because most
	ent	funnel c	louds	"spitti	in up	an	d down".	hree !	otted five differ- funnel clouds,	I and Country	of t	hese had	been h		d.				
	Ple	asant Moun	nd.	The Faye	ette c	oun	ty ESDA o	oordi	two residents of nator spotted ith of Vandalia.	Iowa County	Ligh	1145 CST stning str ed it to	uck a			F W11		ırg, s	Lightning tarting a fire that
Northeast		late		Ū	0	0	3		Hail, Wind	Northeast Iowa	09-	Night	-		0	0	4	-	Snow
	A se	afternoor econd area late afte	a of	severe t	hunde	rsto	orms occu	rred :	in Illinois during is one covering the		An e	Afternoo arly snow around E	storm	produce	d a ba	and o	f snow	about	20 miles wide, One to six
	nor	heast qua	arter	of the	state	٠.													outages resulted.
	La :	Salle cour	nty,	at 400pm	CST;	3/4	4 inch ha	il at	hail at Lowell, Channahon, Will lines near SR 83										
	and	I-55, Du	Page	county,	at 5	55pr	n. CST. A	tornad	lo occurred at storms also pro-	14 KANSAS									
1 7 7	duc	ed heavy n	rains	and sma	ll ha	11.				Winfield, Cowley	101	0200CST			0	0	4	0	Wind
1 N Manhattan, Will county		1840CST							Tornado (F1) able farm about a	County	Thu	nderstorm ned power	winds lines	blew ov at Wint	er si ield.	gns ,	uproot	edaf	ew trees and
	mile hous	north of es used b	f Man	hattan,	Will	cour	ity, at 6	40pm 0	ST. Three small The houses were										
Carbondale Airport,	ļ	cupied.	Sho	rt Narro	uv O	0	0	٥	Tornado (FØ)	15 KENTUCKY									
Jackson county						•	-		sons in the tower	Webster, Union,	Loi	1400-170	ın.		^	^			Flack Flooding
Cora, Jackson	ļ	he Carbor 2147CST				^	•	•	m t. (n4)	Hopkins, McLean, and Graves Counties	1	CST						. 4	Flash Flooding
county	ĺ					ESE	V)A offici		Tornado (FØ) Cora, Jackson		sto	y heavy s rms acros 1y aftern	s the 1	lower Of	iio Va	lley	during	the	1
	cour	ity, at 94	7pm	CST.							mea	surements nty roads	ranged and ci	i from 2 ity stre	to 4 ets w	inch ere i	hes. S impassa	everal ble du	
Decatur, Macon County		1156CST	? Iched	down at	0	0	ST on th		Tornado (F1) h side of Decatur.		Man	the high y basemen Id not ha	ts were	floode	d whe	n sto	orm sew	ers	
	The ward	northwest as the t	orna	rner of a	a con: bega	cret n it	e-block s damage	buildi . The	ng collapsed out- tornado traveled		Har	dest hit	were th	ie towns	of M	organ	ifield	in	
	cont	h to a mo inued to ged about	a car	dealer	rk who	ere wher	it did m e about	inimal it ble	damage. It w out windows and	Fulton County	01	AFTN			0	0	3	0	Thunderstorm
nr Maroa, Macon	l	1253CST	. 10	Luckör	0	^	2	n	Mind		Ver.	y strong es and ut	thunder	storm w	inds Rice	topp1	led sev	eral allen	Winds
county	A la	rge tree	was	blown ov	era	hous	∠ se 2 mil∈	s west	Wind and one quarter		tre	e limb da: wn 135 fe	naged a	mobile	home	. А			
	mile	north of home at t	f Mar	oa in ex	treme	noi	rthern Ma	con co	ounty. No one	Nelson County	09	1200 ES	r		0	0	4	0	Lightning
	'											bolts of scent home							
											kno	nsformer, cked out.	and a Smoke	televis from s	ion se moulde	et we ering	re all paper		
											cau	sed some (ama ge	to one	of the	e hom	ies.		

i							-													NOVEMBER 19
4	XCAL		PATH	Ē	NO PER	OF SONS						CAL		r T	Ę	NO. PERS		ESTIMA DAMA		
PLACE	DATE TIME - LC		LENGTH OF	WIDTH OF PA	KILLED	INJURED	PROPERTY	CROPS	CHARACTER OF STORM	PLACE	DATE	TIME - LOCAL	ac naturals	(MILES)	WIDTH OF PATH (YARDS)	KILLED	INJURED	PROPERTY	CROPS	CHARACTER OF STORM
KENTU	CKY									22 MISSISSIPPI										
Clinton County	Minor floo struck and	r da	mage sed a	was rep a fire to	0 orted o a h	O after ome a	3 r lig mile	htning	Lightning	Lauderdale County	St	12400 rong thi wn ten 1	mders						ision	ligh Wind tower, and blew
Henderson County	13 0600- CST Fog shroud	ed a	nd io					over tl		Laurel	A	13000 12 year cycle in	old L	aurel front	L boy w t yard.	0 as str He w	l uck b as st	0 y ligh ill in	tning	Lightning while on a ma a month later.
	of two rus volved on collided o resulted.	h ho the h th Thr	ur pi north e sou ee we	ileups. hbound s uthbound ere admi	25 ve ide wh side.	ehicle hile l . Nii	eswe 19 mo ne in,	re in- re juries		23 MISSOURI St. Louis and	O1	0554	ret			0	0	2	0	Oica Wind
16 LOUISIANA										County	Wi Se	nd to 5	6 knot bserva	tion	statio	was re	porte ambe	2 ed at rt Fie	the Na	Damaging Wind tional Weather ome minor damage
i	l na 1730	ет							SVR TSTM	St. Louis County	01	0640	CST			0	0	3	0	Damaging Wind
Parishes	A severe th	und					.75 to					number uis Cou		es w	ere dov	med in	Соло	cord V	illage	in south St.
Morehouse Parish	A tornado	tru	ck th	ne town o		Ridg	ge. Se	everal h		St. Louis County		ndows w	ere bl				0 ome ar	3 nd seve		Damaging Wind rees were downed
Plaquemines Parish	High winds	dam		several	build	lings	4 and		High Winds a large trailer	St. Louis County	01 Tr	octh 0650 0700 ees wer ertion o	- CST e blow	n don	wn and	0 minor			repor	Damaging Wind ted in the south
17 MAINE				NONE	REPOR	TED				Barry County		0935		ppc :	and a b	0 arn wa	0 is b3d	4 own dou		Damaging Wind
	The second of th									of	Monett	or 4					f Wheat	ton.		
18 MARYLAND	PLACE Value Value					Stone County	1	1015		lin	es were	U downe	0 dhv	4 high i		Damaging Wind at Reed Spring,				
Garrett county					o	0	3	0	Heavy Snow	Stone County		1030		,,,,,		0	0			Damaging Wind
	1 *			develop	ed i	n Eas	st To	exas, I	cook a course			ees and maged a			es were	downe	d and	d some	bui 1d	ings were lightly
	The snow inches at In the hi	uhi Os gh	ch b klar elev	began S nd and vations	unda: Keys of	y mo: er's far i	rning Ridg West	g accur ge by l ern Hai	nulated to eight fonday morning.	Oregon County	1	12300 nd downe		es a	long Ro	0 rute 16	0 i0 bet	2 ween /		Damaging Wind and Riverton.
	lesser am accidents responded	our	ts fours	from Cu red Sun lls and	mber: day. loc	land Volu Blu	easi unter	t. A : er fir: ties r:	number of minor s companies sported a number	Butler County	Wi	1 1320 1340 ind down ew cars ated at	CST ed tre and a	carp	ort are	ound Po	0 es an oplar	d prod	uced s	Damaging Wind ome damage to a wind was esti-
Prince George's and Frederick					0	0	5	0	Bigh Winds	Dunklin County	f	1350				0	2			Damaging Wind
:	passed the About 10: damaged 10: clinton was spore 50 yards recorded Airport. there were	TOU 30 4 s D. dic in up Tre	gh of PM wall Some of the Some	central wind gu l singl e of th xtendin th. Lat 60 mph were do tered p	Mar; sts = e-en; e pl; g le; er t; at t; wned	ylandestine anes anes as ti hat i he Fi	d ear	rly Wed d at 75 nes at e total a mile t, high rick Mo	inesday night. 5 mph or higher Hyde Field in 1 losses. Damage in length and a winds were unicipal uty roads and		in and and but So Ma	f not a ircraft number uilding, ome dama alden wa lumber ere repo	tornad were t of mob house ge to s repo compan rts o chara	io) postal pile stand the presentation of functions of functions of the presentation o	roduced ly designation of the control of the contro	d subsitroyed were disars were disars and es and es and es and es as a louds a	tanti; five mage re da resi powe also at di al of	al dam e were d or d maged dentia r line comple fferen ficial	age in sever estroy around lares s were tely of the local s iden	ably a downburst Malden. Two ely damaged and ed. The airport the airport of downtown also downed. There tions and with tified the damag aight line winds
										Dunklin County	1	1 1400 1415 rees wer eported	CST e down							Damaging Wind damage was
19 MASSACHU	JSETTS -			NONE	REPO.	RTED				Stoddard County	1	l 1405 amage, i		ing a	destr	0 byed b	O arn, i	4 was re		Damaging Wind I at Bell City.
20 MICHIGAN										Scott County		l 1415		ייאווזי	red in :	0 and are	0 ound			Damaging Wind wo sheds were
Highland Township, Oakland County			s con	itents bu	irned	in a			Lightning I by lightning.	New Madrid County	de mx	estroyed obile ho	, a la me.	rge	tree u	proote	d. an	d a ro	of was	blown off a Damaging Wind
21 MINNESOT	Δ			NONE	REPOR	RTED				St. Louis County	Ti		power	1in	es were	-	•		round	New Madrid. Large Hail
											Ha	nil up t	0 3/4	inch	in dia	meter	fell	south	of Fe	nton.

NOVEMBER 1984

PLACE	Section 1			DAMAGE		CHARACTER OF STORM											
MISSOUR	11						1	MISSOU	RI								
St. Louis County	09 1423CST		0	Ó	? 0		Large Hail		09	1732CST	1	100	0	0	4 0	To	ornado (Fl)
		2 1/2	inch diame	eter ha	il fell	in s	outhern St. Louis	Lounty									
St. Louis County	-		0	0	? 0		Large Hail								Some C	anaye	e to trees and
50. 20210 004115		1/2 inc	hes in dia	meter			•	Ripley County	09	1740CST	1/4	75	0	0	0 0	To	ornado (FO)
	•								A t	ornado to: Highway 16	uched 50 and	down br produce	iefly ed no	7 miles damage	west-r	orth	vest of Doniphan
St. Louis City		1/2 inc	-	-			-	Ripley County	09	1805CST	1	100	0	0	5 0	To	ornado (F1)
St. Louis County	•	1/2 1110	0	0													
•	Hail up to 3/	4 inch	in diamete	er fell	at Inte		-		Som	e people v	vere t	rapped '	in a c	ar due	to a do	wned	
	•	souther					l 11 - 4 - 1	Washington County	-						7 0		ornado (F2)
Iron County		1/2 inc					•		at	the inters	section	n of Hig	phways	8 and	21 (a 1	ittle	southwest of
St. Louis County		.7 is 1110							sal	es lot red	ceived	substar	ntial	dama ge .	Asho	pping	center,
	Hail up to 1	1/2 inc	hes in dia	meter	fell at i		,		was	hit as to	vo peo	ole were	tryi:	ng to e	escape t	o the	basement.
Shannon County	09 1515CST	1/2	100 0	0	4 0		Tornado (F1)		was	killed w	hile t	he man	receiv	ed ser	ious in:	jurie	s. One or two
				niles e	ast of E	mine	nce, downing trees		one	person i uge under	nside a des	of an e k and w	gg pro as not	cessin injur	g plant ed. The	in the tor	he park took nado lifted
St. Louis County	09 1522CST		0	0	0 0		Large Hail							•			
	Hail up to 1	inch in	diameter	fell i	n Shrews	bury	,	St. Genevieve County							3 0		amaging Wind
St. Louis City	09 1532CST		0	0	0 0		Large Hail				and 1	iljuiy o	CCUITE	u arou	ila count	Ly NO	ad An and State
		4 inch	in diamete	r fell	at St.	Loui	s University	Texas County	1	2030CST	/4 inc	h in di	0 ameter	0 fell (0 0 6 miles		arge Hail h of Mountain
St. Genevieve County	09 1600CST	1/2	100 0	0	3 0		Tornado (F1)	1									
	A tornado kno	cked ov	er a build	ding in	Weingar	ten.		Jefferson County	1		1/2 -	nahar i	-	-	? 0		arge Hail
Wayne County				-				Ozark County			1/2 1	ncnes n			0 0		o. arge Hail
	Piedmont to 7	miles	north of P	iedmon	t. Some				Hai nor	l up to 1 th of Gai	inch nesvil	in diam le.	eter f	ell at	Brixey		-
Wayne County	1645CST A tornado tou	1 ched do		0 va and			, ,	Perry County	1		heriff	report	-	0 h wind	0 0 s across		igh Wind county.
St. Louis County	09 1700CST		0	0	? 0		Large Hail										
						the	intersection of	24 MONTANA									
Jefferson County	09 1710CST	1/4	75 0	0	0 0		Tornado (FO)						-	3	6 0	Н	igh Winds
		ched do	wn briefly	betwe	en House	Spr	ings and Cedar	Southern Montana from Powell and Beaverhead	n Fall	Early af ing press	ternoo ures i	n advan	ce of	a Paci	fic wear	ther	system resulted
Cape Girardeau	09 1710CST		0	0	0 0		Large Hail	water and Carbon	alor	ig the Can	adian	border.	Wind	s of 4	0 to 60	mph,	with qusts to
County		inch in	diameter	fell f	n the no	rthw	est portion of the	Wuitches.	ovei	turned an	empty	cattle	truck	on Be	arcreek	Hi11	(near Red Lodge
St. Louis County			0	0	0 0		Large Hail		tree	s and pow cattle tr	er lin uck an	es from d two m	Red L en who	odge t were	o Anaco blown o	nda. ffa	The driver of
		1/2 inc	hes in dia	meter			•		atte	empted to	nail i	t down	were i	njured	slight	ly.	-
Ripley County	09 1720CST		0	0	0 0		Large Hail										
	Hail up to ?	1/2 in	ches in di	ameter	was rep	orte	d near Doniphan.	25 NEBRASKA									
St. Louis County	09 1721CST		0	0	0 0		Large Hail	Panhandle of	03	1000CST			0	0	2 3	}	ligh Winds
		1/2 inc							Stro	-1700CST ng northwe				the par	nhandle	regio	on with
Cape Girardeau County			•	•			-		some	damage re	eporte	d to cro	ops.				
			nes in dia	meter	covered	the	ground near		09	Davtime			0	0	0 0) 1	leavy Snow
Jefferson County	09 1724CST		0	0	0 0	1	Large Hail		Heav	-Evening v snow fel	ll nor	th of a	line	from Ha	arrison	to Br	roken Bow to
	·	4 inch			•				Butt	e with sno fell in a	owfall an are:	in exce about	ess of 20 mi	4 incl les fro	nes. A om 25 mi	band iles r	of heavier north of Whitman
Cape Girardeau County		1/2 :	=	•			-		10 t	o 16 inche	orth o	f Thedfo wenty-f	ord, w	here sa 35 m.,	andhill o.h. wir	ranct nds ca	mers reported mused some
	naii up to i	1/4 INC	nes in ala	meter	ien at	uak	Kiuge.	1	14	g.							

I		_	NOVEMBER 198
PLACE	TIME - LOCAL STANDARD CLENGTH OF PATH (MARCS) WIDTH OF PATH (MARCS) WIDTH OF PATH (MARCS) CROPS	PLACE	TIME - LOCAL STANDARD LENGTH OF PATH (NARDS) WIDTH OF PATH (NARDS) WIDTH OF PATH (NARDS) CROPS C
26 NEVADA	NONE REPORTED	OKLAH	DMA
1		Pauls Valley,	01 0715CST 0 0 4 0 Wind
27 NEW HAMI	SHIRE ———— NONE REPORTED	Garvin County	Strong winds destroyed a mobile home 4 miles northeast of Pauls Valley. Two people were inside the mobile home, but were uninjured. Damage set at \$25,000.
28 NEW JERSÉ	Y ———— NONE REPORTED	Bowlegs, Seminole County	01 0810CST Short Narrow 0 0 3 0 Tornado (F1) A tornado touched down briefly, heavily damaging a barn. Damage estimated at \$5,000.
29 NEW MEXIO	CO NONE REPORTED	Wewoka, Seminole County	01 0815CST 0 0 4 0 Wind Strong winds destroyed a barn just north of Wewoka. Damage
30 NEW YORK	Coastal NONE REPORTED	Ardmore, Carter County	estimated at \$25,000. 01 0830CST
30 NEW YORK	Central NONE REPORTED		Winds clocked at 68 mph occurred at the Ardmore airport,damaging many roofs and destroying a mobile home. Damage estimated at \$40,000.
30 NEW YORK,	Western	McAlester, Pittsburg County	01 0900CST 0 0 4 0 Wind Strong winds struck the Army Ammunition Depot near McAlester, damaging the roofs on six buildings. Damage was estimated at
Many parts of	12-13 - 4 - Snow	Pocola,	\$10,000. 01 1058CST 0 0 5 0 Wind
Western New York	The first snow cover of the season fell and cased slippery road conditions. There were many vehicular accidents, many resulting in dented cars. A few motorists were reportedly injured.	LeFlore County	Strong winds destroyed or heavily damaged 4 mobile homes in a sales lot. The mobile homes were just sitting on cement blocks. Damage estimated at \$55,000.
Lakewood, Chautauqua County	14 Evening 3 - Lightning Lightning struck a two-family house. It blasted a two-foot hole in the roof and knocked down the kitchen ceiling.	35 OREGON	
		Statewide	1-2 0 0 6 4 Wind, Heavy Rain,
31 NORTH CA 32 NORTH DA North Central and North Central	KOTA 14 Evening 0 0 0 High Winds Strong winds (gusts to 58 mph at Minot AFB) occurred with light snow and blowing snow. No damage was reported. 25 Afternoon 0 0 0 0 Winter Starm and to 26 Afternoon	Waldport,	Heavy rain fell over much of western Oregon with 24 hour accumulations as much as 5.3 inches along the Costal Range. Many areas in the Willamette Valley reported amounts between 2 and 3 1/2 inches resulting in some minor urban flooding. Some freezing rain in the Columbia Corge area caused several minor traffic accidents and local orchard damage. Strong winds (30 to 50 mph) whipped through much of the state. Strongest winds were reported along the coastal strip and southern valleys with a peak gust of 94 mph at Cape Blanco. Wind-fallen trees and power lines caused several power outages across the state and also blocked several roads. Numerous buildings fell victim to the strong winds with various damage reports statewide.
	A winter storm with heavy snow (7 inches at Upham in McHenry County, 6 inches at Bowbells in Burke County and 6 inches at Tagus in Mountrail County) and freezing rain created very hazardous driving conditions. Because of icy and snow covered roads, many vehicles went off the road into ditches. One lady died in a car crash	Lincoln County Northeast Oregon	A small tornado touched down briefly near Waldport, ripping several portions of the roof off a 90 room motel, damaging several cars in a nearby parking lot, and overturning a recreational vehicle. 25 Snow
	l4 miles northwest of Minot (Ward County) when her car skidded into another vehicle.	Northeast	Snow showers and icy roads resulted in numerous minor traffic accidents. 26-27 3 ? 5 0 Heavy Snow, Strom
		Mountains	Winds Heavy snow in the northeast mountains along with
33 OHIO Lake, Geauga and Ashtabula Counties	12 DAY 0 0 0 Heavy Snow Four to six inches of snow fell in southern Lake, Southern Ashtabula and Geauga Counties. This Lake Effect snow caused travel difficulties.		strong winds (50 to 70 mph) caused numerous problems. Freezing rain followed by enow amounts in excess of a foot stranded more than 100 elk hunters in the northeast Oregon mountains. Along with winds gusts in excess or 70 mph, snow and fallen trees clogged most roads including Interstate 84 east of Pendleton for several hours. Many of those hunters were stranded for more than 3 days. Three persons died to weather related accidents, Winds also caused power outages in the Heppmer area for about an hour.
34 OKLAHOM		Western Oregon	26 0 0 4 ? Heavy Rain, Stron
Nowata, Nowata County	O1 0030CST 0 0 3 0 Wind Strong winds uprooted a tree, shifted a mobile home off of its foundation, and destroyed a satellite dish just southeast of Nowata. Damage was estimated at \$3,500.		Heavy rain and strong wind whipped through western sections of the state. Rain amounts of 1 to 2 inches were reported in many locations, with 3 inches falling at Laurel Mountain near the Oregon coast. Winds in excess of 60 mph were reported along the south coast, A Gold Beach officer reported an 80 mph gust which pushed a U-haul trailer from a gas station onto Highway 101. Strong winds (40 to 50
Lawton, Comanche County	01 0615CST 0 0 4 0 Wind Strong winds damaged 15,000 square feet of a junior high school building. Damage was estimated at \$25,000.		Station onto highway for. Storing wints (40 to 50 mph) hit the southern Willamette Valley and Klamath Basin. Downed trees and power lines left many locations without power for generally less than an hour.
	1	Oregon Cascades	30 0 9 4 0 Heavy Snow Nearly 2 feet of snow fell on the Oregon Cascades, . causing numerous traffic accidents and a snow slide,

Report Its, Davideon County Report Its, Davideon County Report Its, Davideon County Report Its, Careevilla 190053 0 0 3 0 81gh Mind Dallas County Dallas Count		NOVEMBER 198	
PLACE	DATE TIME - LOCAL STANDARD ON O. OF PERSONS STANDARD CHARACTER OF DATH WIDTH OF PATH WIDTH OF PA	PLACE	TIME - 10CAL STANDARD
36 PENNSYLV	ANIA, Eastern - NONE REPORTED	TENNES	SEE
		Nashvitle, Davidson County	27 1030 cst 4 Wind Strong wind caused roof damage to an east Mashville nursing home, forcing the evacuation of the residents. Rain poured into the home after the roof was damaged by strong wind. The National Weather Service recorded wind to 48 miles an hour at Berry Field in southeast Nashville. Power lines and trees were also damaged in scattered spots in and around Nashville.
38 SOUTH CAR	DLINA	41 TEXAS, Nort	hern
Abbeville, Greenvill	1950EST Thunderstorms with gusts to 45 mph moved through northwestern South Carolina. High winds broke many limbs, interrupted power	Dallas County	1 1200CST 0 0 4 ? Thunderstorm Winds Thunderstorm winds produced roof and wall damage to a church in Seagoville. A nearby nursing home also sustained some roof damage during the incident. There were no injuries.
	Dec 4 Tides, Tidal Flooding A high pressure ridge along the east coast together with a weather	Nacogdoches County	9 1820CST 0 0 4 ? Thunderstorm Winds A home and several chicken houses sustained wind damage during
	winds along the South Carolina Coast. Tides up to 7.9 feet mean low water on November 23, 1984 caused significant beach erosion, especially south of Charleston. Considerable tidal flooding was reported with water "knee-deep" on some Charleston streets.	Hill County	a thunderstorm in the Union Springs area. 26 1500CST 0 0 ? ? Hail Golfball size hail was reported in the extreme southern part of the county.
39 SOUTH DAK	ОТА	41 TEXAS, Sout	thern — NONE REPORTED
Lawrence & Penningto Counties	Gusty winds in Rapid City (Pennington County) and north of Rapid City in the Black Hills knocked two TV stations off the air and	41 TEXAS, West	Tern ———— NONE REPORTED
Black Hills	09 Morning Two to ten inches of snow fell in the Black Hills with heaviest amounts in the north and central Black Hills. Several minor accidents		
South Dakota	14 Early PM 0 0 0 0 Wind Strong winds with gusts to 60 mph were reported from Redig (Harding County) to Lemmon (Perkins County) to Philip (Haakon County) to	Salt Lake County	OS 1500MST O 0 1 0 Thunderstorm Downburst Winds An isolated thunderstorm downburst picked up a trampoline and carried it 5 houses away and did some other minor damage in the city of Sandy. A fence was damaged and mud was splattered against the side of a house in addition to a few shingles being torn off a roof. The damage was confined to a small area.
		Beaver, Cache, Iron, and Tooele Counties	13 0715 to 0 0 1 0 High Winds 1500MST
	ern sections. Heaviest amounts fell in the northern Black Hills. Gusty winds up to 60 mph created drifting problems and forced the closure of roads in the Lead/Deadwood (Lawrence County) area. Numer- ous cancellations occurred around Mission (Todd County) due to snow,	Salt Lake County	High winds in advance of a cold front blasted across much of western Utah on this Tuesday, Gusts of 62 mph were reported in Cedar City and in Cache County. Toocle received winds to 59 mph. Lakeside and Wendover reached 49 mph and Milford 48 mph. 26 Ended at 0 0 1 0 Heavy Snow 0600 MST
40 TENNESSEE			A dramatic demonstration of Lake Effect snowfall occurred between 1800 MST Sunday evening the 25th and 0600 MST Monday the 26th. Western portions of the Salt Lake Valley received up to 20 inches
Osage, Henry County	A small tornado touched down near Osage in the northwest part of Henry County, knocking down some trees and blowing a boat off its		of snow overnight. Spotters in the South Jordan and Copper city areas reported 20 inches of snow with numerous reports of 15 to 20 inches in surrounding areas. Eastern parts of the valley received only a couple of inches of snow.
	A 42-year-old Jellico man was killed when lightning struck as he worked at a strip mine. The man was driving an end loader at the	43 VERMONT -	NONE REPORTED
	Half inch hail was reported by amateur radio storm spotters in east Memphis. Heavy rains also produced local street flooding on	44 VIRGINIA -	NONE REPORTED
	Strong wind with a thunderstore produced a wind gust to 41 miles an hour at the Memphis International Airport. Strong winds in north Memphis blew down a church steeple and downed some trees	,	
	A small tornado struck on the Flynn farm destroying two barns, ripping a porch from a farm house and blowing out most of the		

		NOVEMBER 1
PLACE	STANDARD CROPS CROSS CRO	PLACE STIMATED TO OF PATH WIDTH OF PATH WIDTH OF PATH WIDTH OF PATH WIDTH OF PATH OF P
45 WASHINGTO	DN	
Toutle Lake,	2 1430 PST 0 0 4 0 Thunderstorm,	Carbon County 26 During Day 1 1 4 0 Snow
Cowlitz County	A thunderstorm created damaging winds around the Toutle Lake Elementary and High School Campus. Winds that were estimated to be 80 mph peeled almost helf the roof off the football stadium. The press box also collapsed because of the winds. Some structural damage to the school buildings included air vents and antennas ripped from the roof.	Eight inches of snow was reported on Beaver Creek, 10 miles sou of Encampment in Carbon County. Five and a half inches of snow was logged at nearby Saratoga. One man was killed and one injured when the fatality's car slid broadside into oncoming traffic south of Laramie.
Tacoma, Pierce County	3 1527 FST 0 0 0 0 Lightning A bolt of lightning struck a shortwave radio antenna that was affixed to the top of a fir tree in a yard. The lightning travelled down the wire to the residence and blew a hole in the wall and knocked off the walls siding. The blast blew open doors and cupboards and covered the inside with debris.	49 ALASKA, Northern St. Lawrence Island, Norton Sound. 11- 0 0 ? 0 High Wind
Tacoma, Pierce County	3 1533 PST 0 0 4 0 Lightning The same thunderstorm as above caused another lightning bolt to hit another home. The electrical system was blown out but damage, although substantial, was of a lesser degree than the incident above.	Notton Sound, 11- 0 0 ? 0 High Wind Kotzebue Sound, 16 Arctic Coast A large low pressure system entered the western Bering Sea on th afternoon of Nov. 12. On the morning of Nov. 14, a breakoff low moved northwest into Bristol Bay, Meantime, strong high pressure
Kitsap Penninsula, Kitsap County	27 morning 0 ? 0 0 Snow Up to 6 inches of snow fell at the Navy Submarine Base at Bangor. The snow was limited to the Penninsula, located along the Eastern foothills of the Olympic Mountains.	remained centered about 500 miles north of Barrow. The pressure gradient strengthened over Arctic and Northwest Alaska during th 3-day period. Pt. Lay had winds to 40 knots and chill factor to -75°F on the 14th and morning of the 15th; Unalakleet had winds 36 knots and chill factor to -45°F on the morning of the 17th; Kotzebue had winds gusting to 49 knots and chill factor to -45°F.
Eastern Washington	27 all day 0 ? 0 0 Show An occluded Pacific Storm moved across Washington and dropped the first significant snowfalls of the season east of the Cascade Mountains. The 12-inch total at Yakima was their 4th largest for 24 hours. The wide area of snowfall was generally of 7 to 10 inches and only the extreme southeast corner of the state was spared the snow. Minds reached as high as 50 mph close to the front itself. Schools were closed and traffic accidents were common.	on the morning of the l4th; Unalkleet's wind increased again, to 135 knots with gusts to 43 knots, with chill factor to -35°F on the morning of Nov. 15; Barter Island had steady wind to 34 knots wigusts to 40 knots and chill factor to -65°F on the morning of Nov. 16. The strongest winds for the whole storm were on St. Lawrence Island on the 11th through the 13th, where winds were over 40 knots. The peak winds on St. Lawrence were on the eveniof the 11th, at 62 knots.
47 WISCONSIN	NOME REPORTED	49 ALASKA, Southeastern Juneau 21 5 High Winds
	:	An intense low pressure system, spawned by a major storm in the Eastern Bering Sea, moved northward along the outside coast of
48 WYOMING Park County	02 0915MST 0 0 5 0 High Wind	Southeast Alaska bringing strong gusty winds to the Juneau area Falling trees cut one of the area's major power lines, causing a major power outage. A building under construction collapsed and a trailer was blown off its foundation by winds clocked at
	Winds gusting to 92 mph moved through Cody in Park County. The winds tipped two helicopters over on their sides. Damage also occurred to signs, vehicles, roofs, power lines and poles. Winds estimated to 105 mph ripped part of a roof off of a school at Clark.	61 mph at the Juneau International Airport. All Southeast Alaska 22 2 7 High Winds/Stor
Fremont County	02 1407MST 0 0 5 3 High Wind A wind storm along the east slopes of the Wind River Mountains near Lander in Fremont County produced gusts to 71 mph at the Lander Airport. Gusts to 100 mph were estimated on the ridge west of Lander. Fire fanned by the winds destroyed a house and two vehicles. A couple of mobile homes, trailers, ten tons hay and farm sheds were destroyed. Other minor damage occurred. At Red Canyon where a mobile home was destroyed, wind damage was capricious and tornado-like.	The winds of the 21st were only a prelude to the Big Blow of Thanksgiving in Southeast Alaska. A second intense low, also spawned by the Bering Sea Storm, crossed Southeast Alaska at the same time as waters associated with predicted, unusually high tides were flowing. Winds approaching 100 mph, tides 2 to 3 feet above normal, and waves of from 4 to 10 feet struck throughout the region, damaging or destroying buildings, docks, and roads; sinking numerous pleasure and fishing boats; damaging about a dozen small airplanes; and causing 2 injuries - a broke ankle and a concussion. The towns of Juneau, Sitka, Kake
Buffalo, Johnson County	0.2 1445MST 0 0 4 0 High Wind Two trailer homes at Buffalo were severely damaged, Other window, roof, shed, power line and tree damage occurred. No estimate of the wind strength was made.	Hoonah, Tenakee and Angoon were hardest hit, with Juneau sus- taining damage of almost \$2.5 million by itself.
Southeast Wyoming	02 During Day 0 0 7 0 High Wind Wind gusts to 55 mph were logged at Rawlins and Arlington in	50 HAWAII
Lyman, Uinta County	Carbon County, and at Casper in Natrona County. 02 Evening 0 0 3 0 High Wind Winds of unknown strength blew the roof off of a trailer home at Lyman.	Hawaii Island 3-4 night 0 0 5 0 Flash Flooding Intense thunderstorm rains that fell mostly during the evening hours dropped 4 to 6 inches of rain in a relatively short period over much of the Hilo and Puna districts, causing mostly minor flooding and some power failures. One major casualty of the storm was the
Crook County	25 During Day 0 0 0 Snow Up to six inches of snow was reported near Sundance in Crook	collapse of the roof of a variety store in a shopping center near Hilo.
Sweetwater County	County, 25 During Day 0 0 0 Snow About six inches of snow fell in the Rock Springs-Green River are: in Sweetwater County.	

										NOVEMBER
1	NO. OF ESTIMATED' DAMAGE			'AL	PATH	I	NO. PERS		TIMATED! DAMAGE	
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HAWAII		<u> </u>			1-			1_	1	
(auai and Oahu	26-28 0 0 6 0 Flash Flooding									
	Heavy rains associated with a stalled cold front caused flooding mainly over windward portions of Kauai and Oahu. Gainfall amounts were generally in the 6 to 15 inch range over the affected area and fell mainly during the night of Kovenher 26th-27th. Flooding was most severe in the Lanikai area of vindward Cahu. The area near the entrance to Lanikai was flooded by slowly rising camal waters due to the blockage of the outlet by a sand bar. Other portions of Lanikai were visited by heavy runoff from the surrounding hills. Flooding elsewhere around Cahu was relatively minor. Total damage rainly from Lanikai was estimated at \$ 2.1 million. On Kauai the Hanalei and Wainiha rivers overflowed and a number of stalled cars were damaged and people marooned. A burst of heavy thunderstorm rains during the afternoon of Kovember 28th caused additional flood damage just north of Lihue in the Cocomut Plantation area.									
51 PUERTO RIC	0									
landwide	3 All day 1 0 6° C Heavy Rains/ Flooding									
	Beavy rains, most of which fell during the early morning hours, caused a number of flood situations in various parts of the island. A stationary upper level trough which eventually spawed Hurricane Klaus on 6 November generated a series of heavy showers with intensities ranging in the order of 3 to 5 inches over a 3 hour duration and from 6 to 8 inches in 24 hours. One man drowned in Patillas attempting to drive across a bridge which had been barricaded by the police. One of the heaviest affected areas was Tom Baja-Dorado at the mouth of the La Plata River which was inumdated by up to 4 feet of water. Numerous landslides were reported in the higher interior sections of the island and a number of people were avacuated to Civil Defense shelters. In the area of San Lorenzo, the Rio Grande de Loiza ran over its banks at the Narina Bridge, damaging a number of houses along the river. A number of pumping and filtration stations belonging to the Aqueduct and Sewer Authority were damaged in the upper watershed of the La Plata River near Cayey and Aibonito. Farmers reported heavy damage to minor crops due to soil erosion and also loss of a number of cattle.									
astern Section, ulebra and Vieques slands	6 All Day 0 0 5° C Heavy Rains Wind, Rough Seas									
samos	A tropical depression which formed about 100 miles south of Puerto Rico developed rapidly into Tropical Storm Klaus. Movement to the northeast brought the disturbance across the eastern edge of Puerto Rico, affecting mostly the eastern section from Fajardo to Gusyama and the offshore islands of Gulebra and Vieques. Most damages were due to high winds affecting trees and electrical power installations. Rough seas also caused heavy erosion to coastal roads and marine damage. Heavy road damage between Yabucoa and Ceiba was caused by coastal flooding and wave action. A number of electric power poles were brought down by the wind along with some trees, blocking roads and damaging adjacent buildings. Winds and heavy rains also damaged minor crops in the area.									
	•									
52 VIRGIN ISLA	ANDS									
St. Thomas/St. John St. Croix	6-7 0 0 7 Heavy Rains, Tropical Storm Klaus affected the Virgin Islams as it moved in a northeasterly direction out into the Atlantic from where it formed, just south of Puerto Rico. St. Thomas and St. John received the heavier rains, in the order of 8 to 12 inches, with winds of up to 55 mph in gusts and heavy seas along the coasts. The airport at St. Thomas was under 2-3 feet of water with somewhat lesser amount along the main shopping area of Charlotte Analie. There was heavy damage from wind and sea action in the piers and marinas of all three islands. Three barges broke loose in the St. Thomas Harbor with damages to small boats in the srea.Pier and small boat damage also occurred in the West Indies Dock area of St. Thomas when a cruiser was affected by the high winds and seas. St. Croix received somewhat smaller rainfall amounts, in the order of 6 inches, with less severe local flooding than at the two more northern islands which were closer to the storm center. However, strong sea swells nearly totally destroyed the Frederiksted Pier on the west end of St. Croix, with estimated damage to that structure alone in the order of 3 million dollars. Klaus eventually strengthened to hurricane force about 150 miles northeast of St. Thomas/St. John.									
53 PACIFIC —	NONE REPORTED									

STORM SUMMARY

NOVEMBER 1984

		то	RNAD	OES			HAI	LSTO	RMS		WI	INDST	ORM	3		LIGH	TNING	3		FLOC	DING		@HEA	VY SNI ND BL	OWST(ORMS RDS	#	ICE S	TORM	s		ALL	. OT	IER
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REFERENCE NOTES

- † Storm damage categories are from
 - 1 to 9 as follows:
 - l Less than \$50
 - 2 \$50 to \$500
 - 3 \$500 to \$5,000
 - 4 \$5,000 to \$50,000
 - 5 \$50,000 to \$500,000
 - 6 \$500,000 to \$5 Million
 - 7 \$5 Million to \$50 Million
 - 8 \$50 Million to \$500 Million
 - 9 \$500 Million to \$5 Billion

- Miles instead of yards
- ** Yards instead of miles
- @ Includes heavy sleet storm
- # Freezing drizzle and freezing rain, commonly known as glaze
- Not received or incomplete
- O/c Under Estimated Damage,
 Property/Crops, indicates crop
 damage amount is included
 in the figure given

<u>Definition of Fujita Tornado Scale (F scale)</u>

- (FO) Gale tornado (40-72 mph): Light damage Some damage to chimneys; break branches off trees; push over shallow-rooted trees; damage sign boards.
- (F1) Moderate tornado (73-112 mph): Moderate damage The lower limit (73 mph) is the beginning of hurricane wind speed; peel surface off roofs; mobile homes pushed off foundations or over-

turned; moving autos pushed off the roads.

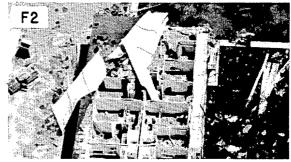
- (F2) Significant tornado (113-157 mph): Considerable damage Roofs torn off frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light-object missiles generated.
- (F3) Severe tornado (158-206 mph): Severe damage Roofs and some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted; heavy cars lifted off ground and thrown.
- (F4) Devastating tornado (207-260 mph): Devastating damage Well-constructed houses leveled; structure with weak foundation blown off some distance; cars thrown and large missiles generated.
- (F5) Incredible tornado (261-318 mph): Incredible damage Strong frame houses lifted off foundations and carried considerable distance to disintegrate; automobile-sized missiles fly through the air in excess of 100 m; trees debarked; incredible phenomena will occur.
- (F6-F12) (319 mph to Mach 1, the speed of sound): The maximum wind speeds of tornadoes are not expected to reach the F6 wind speeds.

(F0+F1) Weak Tornado

(F2+F3) Strong Tornado

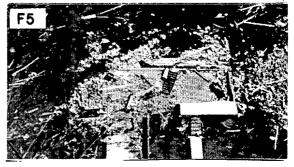
(F4+F5) Violent Tornado

From J. Atmos. Sci., August 1981, p. 1517-1519









USCOMM-NOAA-ASHEVILLE, NC 1984-2500

STORM DATA

A MONTHLY PUBLICATION FROM THE NATIONS CLIMATE EXPERTS



noaa

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION /

NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE

NATIONAL CLIMATIC DATA CENTER ASHEVILLE, N.C.

CHECK THE EXTENT OF STORM DETAILS OFFERED IN STATE-BY-STATE TABLES. . .

NEBRASKA Durry Gusts 4. 100:130CT	PLACE PL	ATT MAN ATT STANDAR OF STORM O
STORM SUMMARY STATE S	Cherry County 4 1400-1530CST 0 0 4 5 Hail and One and a haif inch hail covered the ground a Damaging Wi 20 mile swath through the Sparks area damaging hay and some corn crops. High winds with thunderstorm downed trees and damaged a building 3 1/2 miles northeast of Valentime.	inds Lincoln County 6 0400CST 0 0 3
PLEASE ENTER MY ONE YEAR SUBSCRIPTION, (12 ISSUES) FOR STORM DATA □ ENCLOSED IS \$ 13.80 (MAKE CHECKS PAYABLE TO DOC/NOAA/NCDC) □ CHARGE TO MY CREDIT CARD. □ VISA □ MASTER CARD NUMBER EXPIRATION DATE SIGNATURE MAIL MY STORM DATA SUBSCRIPTION TO: NAME	TORNADOES	NOSTORMS
SIGNATURE MAIL MY STORM DATA SUBSCRIPTION TO: NAME	☐ ENCLOSED IS \$ 13.80 (MAKE CHECKS PAYABLE TO DOC/NOAA/NCDC) ☐ CHARGE TO MY CREDIT CARD. ☐ VISA ☐ MASTER CARD	
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